| Work Orde<br>October-17-13                  |                      | 8477                               |                              |                                | Page 1                   |            |              |               |                  |                  |                |                   |
|---|----------------------|------------------------------------|------------------------------|--------------------------------|--------------------------|------------|--------------|---------------|------------------|------------------|----------------|-------------------|
| Item ID:<br>Revision ID:<br>Item Name:      | D3161-7 Hinge 14.0"  |                                    | A                            | Accept                         | *N900                    | <b>040</b> | 100          | )* s          | Setup Star       |                  | S1*<br>S2*     |                   |
| Start Date:<br>Required Date:<br>Reference: | 10/21/13<br>10/21/13 | Start Qty: 4.00<br>Req'd Qty: 4.00 | *4*<br>*4*                   |                                | Cust Item I<br>Customer: | D:         |              |               |                  |                  |                |                   |
| Approvals:                                  |                      | •                                  | Date: 13-10-21               |                                |                          | nte:       |              | I             | Run Star<br>Stop |                  | R1*<br>R2*     |                   |
| Sequence ID/<br>Work Center II              | D                    | Operation Description              |                              | Set Up/<br>Run Hours           | Tool ID                  | Tool #     | Plan<br>Code | Accept<br>Qty | Reject<br>Qty    | Reject<br>Number | Insp.<br>Stamp | _                 |
| Draw Nbr                                    | Rev                  | ision Nbr                          |                              |                                |                          |            |              |               |                  |                  |                | •                 |
| D3161                                       | Rev                  | A2                                 |                              |                                |                          |            |              |               |                  |                  |                | _                 |
| 100<br>*100*<br>Small Fab                   |                      | Small Fab  Memo                    |                              | 0.00                           |                          |            |              | 4x_           |                  |                  | Blok           | DAS<br>36<br>9-89 |
| Small Fab                                   |                      | (1) 72" Hing<br>D3161              | ge makes (5) D3161-7 parts a |                                |                          |            |              |               |                  |                  |                |                   |
| *110<br>*11 <b>0</b> *                      |                      | QC5- Inspect part compl            | leteness to step on W/O      | 0.00 27<br>9-8<br>0.00 \$ [C 2 | •                        |            |              | Ų             |                  |                  |                |                   |
| QC<br>Quality Control                       |                      | Мето                               |                              | 0.00 15 (0 6                   | <b>X</b> 2               |            |              |               |                  |                  |                |                   |
| 120   |                      | Identify as per dwg & St           | ock Location:5T03/           | 0.00                           |                          |            |              | , /           | DAS              |                  |                |                   |
| *120* Packaging                             |                      | Memo                               |                              | 0.00                           |                          |            |              | 4x            | DAS<br>28        | 13-10            | -23            |                   |

9-89

Memo

Packaging

|   |      |      |     |   |            |  |   | DQA:       | Date:   |                           |  |  |  |
|---|------|------|-----|---|------------|--|---|------------|---|---------------------------|--|--|--|
| NCR: Yes  | / No |      |     | WORK ORDER NON-                                   | CONFOR     | MANCE / UF                                 | PDATE                                   | QA Closed: | Date:   |                           |  |  |  |
| Work Order:   |      |      |     | DISPOSITION                                       |            | AGAINST DEPARTMENT/PROCESS                 |   |            |   |                           |  |  |  |
| Part No.  |      |      |     | Rework<br>Scrap<br>Use-as-is<br>Work Order Update | <b>→</b> 1 | Skid-tube  Machining  moforming  Large Fab | Crosstube Small Fab Finishing Composite |            | Water Jet d. Eng. Coor. re/Packaging Supplier | Engineering Quality Other |  |  |  |
| Root  |      |      |     | Description of work order update                  | Initial    | 1  | ction                                   | Sign &     |   |                           |  |  |  |
| Cause   | Date | Step | Qty | or Non-conformance                                | Chief Eng  | Des  | cription                                | Date       | Verification                                  | QC Inspector              |  |  |  |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved |      |      |     |   |            |  |   |            |   |                           |  |  |  |

| Landing ( | Gear                         | General        | _                               | _                    | _                  |
|-----------|------------------------------|----------------|---------------------------------|----------------------|--------------------|
|           | Bending                      | Bend           | Grain                           | Ovalized             | Pressure/Forced    |
|           | Centre Not Concentric to O/S | BOM/Route      | Hardware                        | Over/Under tolerance | Temperature/Cure   |
|           | Cracks                       | Broken/Damaged | Inspection Incomplete           | Part Incorrect       | Weld               |
|           | Crushed/Crimped              | Burrs          | Instructions Incomplete/Unclear | Part Lost/Missing    | Wrong Stock Pulled |
|           | Cuffs                        | Contamination  | Maintenance                     | Part Moved           | <br>_              |
|           | Heat Treat                   | Countersink    | Mislabeled                      | Positioned Wrong     | <br>               |
|           | Inspection Strip in Tube     | Cut Too Short  | Misread                         | Power Loss/Surge     | Other              |
|           | Ripples in Bend              | Drill Holes    | Offset                          |                      |                    |
|           | Torque Waves in Extrusion    | Drawing        | Out of Calibration              |                      |                    |
|           | Turning Sequence             | Finish         | Out of Sequence                 |                      |                    |
|           | Wave/Twist in Tube           | Folio          | Outside Dimensions              | -                    |                    |

**FAULT CATEGORY** 

| Work Orde                                   |                      | 8477                               |            | *108                 | R477*                     |                     |        |               | Page 2                       |
|---|----------------------|------------------------------------|------------|----------------------|---------------------------|---------------------|--------|---------------|------------------------------|
| Revision ID:                                | D3161-7 Hinge 14.0"  |                                    |            | Accept               | *N9000                    | 040100              | * Setu | Start Stop    | *NS1*<br>*NS2*               |
| Start Date:<br>Required Date:<br>Reference: | 10/21/13<br>10/21/13 | Start Qty: 4.00<br>Req'd Qty: 4.00 | *4*<br>*4* |                      | Cust Item ID<br>Customer: | <b>):</b>           |        |               |                              |
| Approvals:                                  |                      | un:                                |            |                      | Dat                       | te:                 | Run    | Start<br>Stop | *NR1*<br>*NR2*               |
| Sequence ID/<br>Work Center II              | )                    | Operation Description              |            | Set Up/<br>Run Hours | Tool ID                   | Tool # Plan<br>Code | -      | •             | Reject Insp.<br>Number Stamp |

0.00

0.00

QC21- Final Inspection - Work Order Release

Memo

130

\*130\*

Quality Control

pl/3-10-23

|               |                       |                                      |                                       |               |                    |                           | •               |           |                  |             | DQA:               | Date:         | :                |
|---------------|-----------------------|--------------------------------------|---------------------------------------|---------------|--------------------|---------------------------|-----------------|-----------|------------------|-------------|--------------------|---------------|------------------|
| NCR:          | es /                  | No                                   |                                       |               |                    | WORK ORDER NON-C          | 100             | NFORM     | /ANCE / UP       | DATE        |                    |               |                  |
|               |                       |                                      |                                       |               |                    |                           |                 |           |                  |             | QA Closed:         | Date          | •                |
| Work Orde     | o <del>į</del>        |                                      |                                       |               |                    | DISPOSITION               |                 |           |                  | AGAINST DE  | /PROCESS           |               |                  |
|               |                       |                                      |                                       |               |                    | Rework                    |                 |           | Skid-tube        | Crosstube   | ]                  | Water Jet     | Engineering      |
| Part N        | No                    |                                      |                                       |               |                    | Scrap                     |                 | r         | Machining        | Small Fab   | Pro                | d. Eng. Coor. | Quality          |
|               |                       |                                      |                                       |               | Use-as-is          |                           | l.              | noforming | Finishing        | Rec/Sto     | re/Packaging       | Other         |                  |
| NCR I         | No                    |                                      |                                       |               |                    | Work Order Update         | ]               |           | Large Fab        | Composite   | }                  | Supplier      |                  |
| Root          |                       |                                      |                                       |               | Descri             | tion of work order update |                 | nitial    | Ac               | tion        | Sign &             |               |                  |
| Cause         | 1                     | ate                                  | Step                                  | Qty           | or Non-conformance |                           |                 | ief Eng   | Desc             | cription    | Date               | Verification  | QC Inspector     |
| Doc/Data      |                       |                                      | · · · · · · · · · · · · · · · · · · · |               |                    |                           |                 |           |                  |             |                    |               |                  |
| Equip/Tooling |                       |                                      | :                                     |               |                    |                           |                 |           |                  |             |                    |               |                  |
| Operator      |                       |                                      |                                       |               |                    |                           |                 |           |                  |             |                    |               |                  |
| Material      |                       |                                      |                                       |               |                    |                           |                 |           |                  |             |                    |               |                  |
| Setup         |                       |                                      |                                       |               |                    |                           | Ì               |           |                  |             |                    |               |                  |
| Other         |                       |                                      |                                       |               |                    |                           |                 | :         |                  |             |                    |               |                  |
| Process       |                       |                                      |                                       |               |                    |                           |                 |           |                  |             |                    |               |                  |
| Supplier      |                       |                                      |                                       |               |                    |                           |                 |           |                  |             | İ                  |               |                  |
| Training      |                       |                                      |                                       |               |                    |                           |                 |           |                  |             |                    |               |                  |
| Unapproved    |                       |                                      |                                       |               |                    |                           |                 |           |                  |             |                    |               |                  |
|               |                       |                                      |                                       |               |                    | <u> </u>                  | AUL             | T CATE    | GORY             |             |                    |               |                  |
| Landi         | ng Gea                | r                                    |                                       |               |                    | General                   |                 |           |                  | _           | -                  |               | <b>-</b>         |
|               | <u></u> Ве            | nding                                |                                       |               |                    | Bend                      | L               | Grain     |                  |             | Ovalized           |               | Pressure/Forced  |
|               | Ce                    | ntre No                              | ot Concei                             | ntric to      | o/s                | BOM/Route                 | L               | Hardwa    | re               |             | Over/Under         | tolerance     | Temperature/Cure |
|               | Cra                   | Cracks Broken/Damaged                |                                       |               |                    |                           |                 | Inspecti  | on Incomplete    |             | Part Incorre       | ct            | Weld             |
|               | Crushed/Crimped Burrs |                                      |                                       |               |                    | instruct                  | ions Incomplete | /Unclear  | Part Lost/M      | issing      | Wrong Stock Pulled |               |                  |
|               | Cuffs Contamination   |                                      |                                       | Contamination |                    | Mainte                    | nance           |           | Part Moved       |             |                    |               |                  |
|               | Не                    | Heat Treat Countersink               |                                       |               |                    | Mislabe                   | led             |           | Positioned Wrong |             |                    |               |                  |
|               | Ins                   | spection Strip in Tube Cut Too Short |                                       |               |                    |                           | Misread         | ł         |                  | Power Loss/ | Surge              | Other         |                  |

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

## **Picklist Print**

October-17-13 1:35:32 PM

Work Order ID:

108477

Parent Item:

D3161-7

Parent Item Name:

Hinge 14.0"

**Start Date:** 10/21/13

Required Date: 10/21/13

Page 1

Start Qty: 4.00

Required Qty: 4.00

Comments:

IPP A04.08.24New IssueKJ/JLM

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Statı | us<br>D |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|-------|---------|
| MS20257-3-7200<br>Piano Hinge   |                        | Purchased     | No          |                     |                  | 100             | f                  | 64.2816        | 1.2         | 4.8          | (3            | 10             | 73    | 9       |
|                                 |                        |               |             | <b>Location</b>     |                  | Loc Oty         | <u>Lo</u>          | c Code         |             |              | /             | /              |       |         |
|                                 |                        |               |             | ST209a              |                  | 64.2815788      |                    |                |             |              |               |                |       |         |
|                                 |                        |               |             | 12                  | 3960             | 2.2447368       |                    |                |             |              |               |                |       |         |
|                                 |                        |               |             | m l                 | 26275            | 26.036842       |                    |                | 4           | 8_           |               |                |       |         |
|                                 |                        |               |             | m1                  | 27172            | 36              |                    |                |             |              |               |                |       |         |

|                   |                       |  |                  |                                       |   |              |                            |  |          | DQA:          | Date:                     |                    |  |
|-------------------|-----------------------|--|------------------|---------------------------------------|---|--------------|----------------------------|--|----------|---------------|---------------------------|--------------------|--|
| NCR: Y            | es / No               |  |                  |                                       | WORK ORDER NON-C  | CON          | FORN                       | AANCE / UPDATE                         |          | QA Closed:    | Date:                     |                    |  |
| Work Orde         | Work Order: DISPOSITI |  |                  |                                       |   |              | AGAINST DEPARTMENT/PROCESS |  |          |               |                           |                    |  |
| Part No.  NCR No. |                       |  |                  | Rework Scrap Use-as-is                | Scrap Machining Small F Use-as-is Thermoforming Finishi |              |                            | b Prod. Eng. Coor. Rec/Store/Packaging |          |               | Engineering Quality Other |                    |  |
| NCR I             | NO                    |  | Work Order Updat |                                       |   | ۱ ا          |                            | Large Fab Composite                    | <u> </u> | Supplier      |                           |                    |  |
| Root              |                       |  |                  | Descri                                | Description of work order update                        |              |                            | Action                                 |          | Sign &        |                           |                    |  |
| Cause             | Date                  | Step                                   | Qty              | (                                     | or Non-conformance                                      |              |                            | Description                            |          | Date          | Verification              | QC Inspector       |  |
| Doc/Data          | $\Box$                |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Equip/Tooling     |                       |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Operator          |                       |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Material          |                       |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Setup             |                       |  |                  |                                       |   | Ì            |                            |  |          |               |                           |                    |  |
| Other             |                       |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Process           |                       |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Supplier          |                       |  |                  |                                       |   | 1            |                            |  |          | 1             |                           |                    |  |
| Training          |                       |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
| Unapproved        | <u> </u>              |  |                  |                                       |   |              |                            |  |          |               |                           |                    |  |
|                   |                       |  |                  | · · · · · · · · · · · · · · · · · · · |   | AULT         | CATE                       | GORY                                   |          |               |                           |                    |  |
| Landi             | ng Gear               |  |                  | _                                     | General   |              |                            |  | _        | 7             | _                         | <b>7</b>           |  |
|                   | Bendin                | ~                                      |                  | <u> </u>                              | Bend  | Щ            | Grain                      |  | L        | Ovalized      |                           | Pressure/Forced    |  |
|                   |                       | Centre Not Concentric to O/S BOM/Route |                  |                                       |   |              | lardwa                     |  | _        | Over/Under    | <b>⊢</b>                  | Temperature/Cure   |  |
|                   | Cracks                |  |                  |                                       |   | -            |                            | on Incomplete                          | L        | Part Incorred | <b>⊢</b>                  | Weld               |  |
|                   | <b>⊢</b> ⊣            | Crushed/Crimped Burrs                  |                  |                                       |   | -            |                            | ions Incomplete/Unclear                | L        | Part Lost/Mi  | ssing                     | Wrong Stock Pulled |  |
|                   | Cuffs                 | Cuffs Contamination                    |                  |                                       |   | $\mathbf{H}$ | Mainte                     |  | L        | Part Moved    |                           |                    |  |
|                   | Heat Ti               | Heat Treat Countersink                 |                  |                                       |   |              | Mislabeled                 |  |          | Positioned W  | /rong                     |                    |  |

Misread

Out of Calibration

Out of Sequence

Outside Dimensions

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

Folio

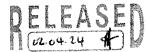
H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G





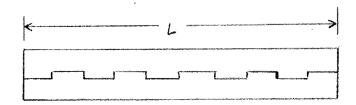
| DESIGN  | DRAWN BY   | DART AEROSF<br>HAWKESBURY, ONTAF |         |  |  |
|---------|------------|----------------------------------|---------|--|--|
| CHECKED | APPROVED   | DRAWING NO.                      | REV. A  |  |  |
| DATE    | 24.24      | TITLE HINGE                      | SCAL NT |  |  |
| A       | 02.04.24   | NEW ISSUE                        |         |  |  |
| AL A    | 1 04.02.27 | ADDED D3161-5                    |         |  |  |

ADD 03161-7 & 03161-9



DART

| P/N     | LENGTH 'L' | DESCRIPTION                                  |
|---------|------------|--|
| D3161-1 | 13.5"      | HINGE (REPLACES MS 20257-3-13.5 ON DZ183)    |
| D3161-3 | 15.0"      | HINGE (REPLACES MS 20257-3-150 ON D2950-041) |
| D3161-5 | 9.9"       | HINGE  |
| 03161-7 | 14,0"      | HINGE  |
| D3161-9 | 17.0"      | HINGE  |



## NOTES:

(1) MAKE FROM MS20257-3-7200 HINGE